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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/769,339	01/26/2001	Yoshihisa Takubo	Q62555	5113

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09/23/2002

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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/23/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/769,339

Applicant(s)

TAKUBO, YOSHIHISA

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

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1) Applicant is advised that should claim 2 are be found allowable, claim 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

Claims 2 and 13 have the same scope.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 2, 7, 10, 11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The difference in scope between claims 2 and 13 is unclear.

In claim 7, what is "tread halt width"? Should "tread halt width" be --tread half width--?

In claim 10, the scope and meaning of "self-closing type groove" is unclear. When is the groove self closing? Is the self closing type groove a sipe which thereby excludes a circular groove 42 as shown in figure 3A?

4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) **Claims 1-2, 4-8, 12-13 and 15-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kobayashi (US 6347653).**

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

7) **Claims 1-4, 6-7, 9, 12-15 and 17-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japan 204 (JP 5-155204).**

Japan '204 discloses a pneumatic tire having a tread comprising wide lug grooves 4, a narrow circumferential recess 6 on the central plane of the tire and sequentially formed narrow recesses 7. The sequential narrow recesses are located just outside a position spaced by $W/3$ from the center plane of the tire. The negative ratio of the tread is 50-80%. See abstract and figures. The lug groove 4 has a depth of

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15 mm. Each of the narrow circumferential recess 6 and the narrow recesses 7 have a width of 3-15% of the tread width and a depth of 7.5 mm. The depth of each recess is 50% of the lug groove depth ($7.5 \text{ mm} / 15 \text{ mm} = 50\%$). Japan '204 teaches that the narrow recesses are more shallow than the lug grooves. See machine translation. The negative ratio of the narrow circumferential recess and the sequential narrow recesses other than the wide lug grooves therefore must define a negative ratio of 6-30%, which corresponds to the claimed range of 10-25%; it being noted that the midpoint of the range 6-30% is 18% which falls within the claimed range of 10-25%.

The tire of claims 1-4, 6-7, 9, 12-15 and 17-19 is anticipated by the tire of Japan '204. In any event: As to claim 1, it would have been obvious to one of ordinary skill in the art to use a negative ratio of the center region other than the lug groove of 10-25% for the tread of Japan '204 since (a) the negative ratio of Japan '204's tread other than the lug groove is defined by the narrow recesses, (b) the circumferential narrow recess contributes only 3-15% to the negative ratio and the sequential narrow and (c) the sequential narrow recesses contribute only 3-15% to the negative ratio. Hence, Japan '204 teaches a negative ratio other than the lug groove of 3-30% and this range of 6-30% is suggestive of the claimed range of 10-25%. As to claim 12 (depth), the claimed recess depth being 10-45% of lug groove depth would have been obvious in view of Japan '204's teaching to use a recess depth which is more shallow than the lug groove depth; a recess depth which is 50% of the lug groove depth being provided as an example. As to claim 17, the "recess portion continuously" reads on the circumferential groove 6 and the "another recess portion" reads on the narrow grooves

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7. As to the remaining claims: The "auxiliary groove segment" reads on the narrow groove 7. The claimed lug groove bottom configuration is suggested by the lug groove bottom illustrated in figure 3.

8) **Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (page 19 lines 2-3) in view of Japan '913 (JP 5-96913) and/or Great Britain '587 (GB 691587) and optionally further in view of Europe '288 (EP 593288) and/or Japan '113 (JP 11-139113).**

The admitted prior art teaches a pneumatic tire having a tread comprising lug grooves having a maximum depth of 60 mm or more but no recesses. The admitted prior art teaches that this tire is used for construction (heavy) vehicles. The admitted prior art teaches that heat generation is increased due to a higher speed of the heavy vehicle. The admitted prior art does not teach using recess(es) in the admitted prior art tread having lug grooves to reduce heat generation. However, it would have been obvious to one of ordinary skill in the art to provide the claimed recess(es) in the center region of the tread having lug grooves for a heavy duty tire of the admitted prior art such that the negative ratio of the center region other than the lug groove is 10-25% to reduce heat generation in the admitted prior art tire since (a) Japan '913 suggests forming recesses (holes) in land portions of a tread for a heavy duty pneumatic tire to reduce heat generation and/or Great Britain '587's teaching to form a narrow center circumferential recess and sequential narrow grooves (slits) in a tread having lug grooves for a heavy duty pneumatic tire which is to have reduce heat generation and optionally (b) it is well known per se in the tread art to use a center circumferential

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groove to reduce heat as evidenced by Europe '288. The limitation of the depth of the recess(es) being 10-45% of the lug groove depth would have been obvious in view of the depth of the recess(es) suggested by the secondary art – Great Britain '587 for example teaching a recesses depth of 1/3-2/3 of lug groove depth. The limitation of the configuration of the lug groove bottom would have been obvious in view of (a) the configuration of the lug groove bottom shown by Great Britain '587 and optionally (b) the lug groove configuration shown by Japan '113 – Japan '113 clearly teaching a groove depth gradually increasing toward the center plane of a tread having lug grooves for a heavy duty tire.

Remarks

9) The remaining references are cited of interest.

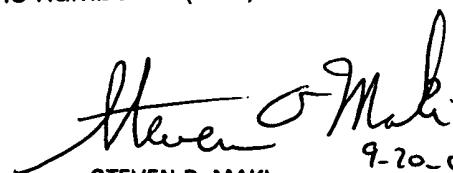
10) No claim is allowed.

11) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
September 20, 2002


STEVEN D. MAKI
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733
9-20-02